Concepts of Incorporation

Incorporation functions are used

- to find external objects that are not yet documented/connected to a documentation object,
- to document applications that are not yet documented in Predict,
- to redocument applications that are not completely documented in Predict.

Overview of Incorporation Options

Incorporation functions perform the following tasks:

- **Compare** external and documentation objects (command code T).
  The function finds implemented objects already documented with Predict objects, where the implemented object and the Predict object are not connected.
  If an implemented and a documented object with no differences are found and the parameter Connect automatic is set to Y, the implemented object is connected to the Predict object.
- **Connect** external and documentation objects (command code C).
  The function connects documentation and implementation objects and - if appropriate - the documentation object is partially updated. For example: physical file attributes are updated, but file lists are not.
- **Display** IDs of objects that must be documented in Predict before objects can be incorporated (command codes M and V).
  - Display related DDM(s) that must be documented in Predict before DDMs can be incorporated (command code V)
  - Display DB2 databases, tablespaces and storagegroups that must be documented in Predict before tables/views or tablespaces can be incorporated (command code M).
- **Incorporate** external objects (command code I).
  A Predict object is created, its attributes are taken from the implemented object. The implemented object and the new documentation object are connected.
- **Replace** documentation objects with newly created objects (command code R)
  - Replace IMS database objects in Predict with newly created objects.
  - Replace file object by incorporating COBOL copy code.

Overview of Incorporation Subfunctions

Not all incorporation subfunctions are available for all object types. See table below.

Documentation Object	Compare	Connect	Display Masters	Display Related DDMs	Incorporate	Replace
Adabas Database	Y	Y			Y	
Adabas File	Y	Y			Y	
DB2 Database	Y	Y			Y	
DB2 and SQL/DS Tables/Views	Y	Y	Y		Y	
DB2 Storagegroup	Y	Y			Y	
DB2 Tablespace	Y	Y	Y		Y	
DDM	Y	Y		Y	Y	
IMS Database					Y	Y
Natural Security User					Y	
SQL Tables/Views			Y		Y	
Super Natural User					Y	

Connecting External and Predict Objects

The incorporate functions Compare, Connect, Incorporate and Replace can be used to connect Predict objects and external objects.

See the section Handling of External and documentation Objects in this documentation for a description of the basic principles of connecting external and Predict objects.

Identifying Corresponding External and documentation Objects

Incorporation functions read information from Predict and from external sources to try and find objects that correspond. Corresponding objects are identified as follows:

Predict Object	Corresponding Object Identified with
Adabas Database	Physical database number (P-DBnr)
Adabas File	Physical database and file number (P-DBnr/P-Fnr) see also note below
DDM	DDM name - Predict file ID
DB2 Database	DB2 database name
DB2,SQL/DS Tables/Views	DB2,SQL/DS table/view name - Predict file ID
DB2 Storagegroup	DB2 storagegroup name
DB2 Tablespace	DB2 tablespace name
IMS Database	IMS database name
Natural SEC. User	User name - ID of User object in Predict
SQL Tables/Views	SQL table view name - Predict file ID
Super Natural User	User name - Predict user ID

Note:
With partitioned files, a Predict file object can be implemented with several physical files: In this case the database/file number of implemented files and corresponding Predict file objects need not be identical.
Predict evaluates the Vista translation table to determine implemented files documented with Predict file object when the database/file numbers are not identical.

Sources of Information on External Objects

Predict reads the following external sources of information:

documentation Object	External Source of Information
Adabas Database	Adabas GCB
Adabas file	Adabas FCB and FDT
DB2 Database	DB2 catalog
DB2,SQL/DS Tables/Views	DB2 catalog
DB2 Storagegroup	DB2 catalog
DB2 Tablespace	DB2 catalog
DDM	DDM (in Predict system file)
IMS Database	Natural for DL1 database description (NDB) in Predict system file
Natural SEC. User	Natural Sec. system file
SQL Tables/Views	Catalog of corresponding DBMS
Super Natural User	Super Natural system file

Calling Incorporation Functions

When working online, incorporation functions are called from object type-dependent Incorporate screens. These are called by entering code I and an external object code in a Predict main menu.

To display a list of the valid external objects that can be processed with incorporation functions, select function code I in a Predict main menu and either leave the Object type blank or enter an asterisk. The external object types displayed depend on the environment. If DB2 is not installed, for example, DB2 objects are not contained in the list.

Incorporation Functions are Executed in Two Steps

- Create a list of external objects not yet connected to any Predict documentation object by specifying selection criteria.
- Process the selected objects with incorporation functions.

When incorporating Natural Security users and Super Natural users, the external object is selected and the incorporation subfunction is executed in one step.

Step 1: Selecting the Objects to be Processed

A selection list containing external objects is displayed. Selection criteria determine which objects are contained in the list. The layout of the list depends on the external object type.


```
13:50:11            *****  P R E D I C T  4.2.2   *****            2002-07-31
                     - Incorporate DB2 Tablespaces -
Search-crit.: Tablespace name=ALL
    DB2       Tablespace   PREDICT
Cmd database  name         dataspace ID                    Remark

__  ABAG      ABAGTS01                                     DA missing
__  ABAG      ABAGTS02                                     DA missing
__  ABAG      ABAGTS03                                     DA missing
__  ABAG      ABAGTS04                                     DA missing
__  ABAG      ABAGTS05                                     DA missing
__  BGCDA     AAB$PACE                                     SC missing
__  BGCDA     TABSPACE     PD-TABSPACE                     SC missing
__  DB01      TS01                                         DA missing
__  DSNCV     DSNAUTH                                      DA missing
```

Remarks which apply to all Object Types

Note:
Type-specific remarks are described with the respective external object types.

Remark	Function	Description
Equal	Compare	No significant differences between external and documentation object. Connection between the two can be established.
Different		Significant differences between external and documentation object. No connection between the two possible.
Connected	After execution of incorporation function Connect or Compare with parameter Connect automatic set to Y	Connection between external and documentation object was established.
Not connected		No connection established due to significant differences between external and documentation object.
Incorporated	After execution of function Incorporate	New Predict object created with information from external object.
Not incorporated		No new Predict object created.

Step 2: Processing Objects with Incorporation Functions

Compare - Code T

Compares the external objects with Predict objects and reports differences between attributes and lists of children (if applicable). Requires that both an implemented object and a corresponding Predict object exist.
This function connects Predict objects to external objects if the following prerequisites are met:

- The parameter Connect automatic is set to Y.
- No differences or insignificant differences are found between the external object and the Predict object. If insignificant differences are found, the Predict object is updated.

Applicable to all external object types except Natural Security, Super Natural users and SQL tables/views.

Connect - Code C

Connects the external object to an existing Predict object and

- copies current information from external object to the Predict object;
- writes to the generation log of the object that a corresponding implemented database existed when the connection was established;
- connects child objects to the corresponding external objects.

Applicable to all external object types except Natural Security, Super Natural users and SQL tables/views.

Display Masters - Code M

When incorporating tables/views/tablespaces, higher-level objects (databases, storagegroups, tablespaces) must be documented in Predict.
This function finds higher-level objects that are not documented.

Display Related DDMs - Code V

When incorporating DDMs, related DDMs must already be documented in Predict. This function displays related DDMs that must be incorporated before a DDM can be incorporated.

Applicable to DDMs.

Incorporate - Code I

Creates Predict objects from information of external objects and connects the Predict objects to the external objects.
Applicable to all external object types.

- When incorporating files/tables/views, Predict objects for the files in the database and links from files to fields are also created.
- When incorporating IMS databases, Predict objects for the files in the database and links from files to fields are also created.

Type-specific parameters determine how the different incorporation functions work.

Replace - Code R

This is the only function with which existing Predict objects documenting NDBs can be changed. Applicable to NDBs for IMS databases and segments.

Overview of Function Codes and Commands

The following table gives an overview of the codes to be entered in a Predict main menu and the corresponding commands.

Object Type	Code	Command
Adabas Database	AD	INCORPORATE ADABAS-DATABASE
Adabas File	AF	INCORPORATE FDT
Adabas D Table/View	BF	ESD-TABLE
COBOL Copy Code	CO	INCORPORATE COBOL
DDM	DD	INCORPORATE DDM
IMS Database	ND	INCORPORATE NDB
DB2 Database	D2	INCORPORATE DB2-DATABASE
Adabas table/view	EQ	INCORPORATE ESQ
INGRES Table/View	JF	INGRES-TABLE
Natural Security User	NS	INCORPORATE SECURITY
ORACLE Table/View	OF	ORACLE-TABLE
Super Natural User	SU	INCORPORATE SUPER
DB2 Table/Views	T2	INCORPORATE TABLE
DB2 Storagespace	SG	INCORPORATE STORAGEGROUP
DB2 Tablespace	TS	INCORPORATE TABLESPACE
INFORMIX Table/View	XF	INFORMIX-TABLE
SYBASE Table/View	YF	SYBASE-TABLE

Using Incorporation Functions in Batch Mode

Incorporation functions can be used both online and in batch mode.
Exception: Incorporate DDM is only available online.

